

REMARKS/ARGUMENTS

The present invention relates to a method and apparatus for addressing the very specific problem of the possibility of the chilled water being frozen when the flow thereof is disrupted for any reason. Even though such a disrupted flow condition is sensed and the steps are taken to shut the machine down, since there is no heat input to the evaporator during that shut down period, the thermal inertia of a system can cause the chilled water in the tubes to freeze. This problem is solved by sensing when the chilled water flow is terminated and both shutting down the system and delivering a higher temperature refrigerant to the evaporator to maintain the temperature level of the chilled water to prevent it from freezing.

The cited reference, on the other hand, is concerned with preventing the refrigerant, rather than the chilled water, from freezing. It accomplishes this primarily by controlling the amount of heat that is applied to the boiler, but also, under certain conditions, by controlling the cooling capacity of the cooling water. In any case, the purpose and function is to prevent the freezing of the refrigerant rather than the chilled water.

As will be seen in column 4, the method involves the steps of first detecting the refrigeration demand by sensing the chilled water temperatures and flow rate. Next, the heat input into the high temperature generator is turned on/off to control the thermal input. Then, the cycle condition is detected by various methods including the detection of the temperature of the chilled water. Following that, the cooling capacity of the cooling water is controlled by use of the flow rate regulation valve. Next, the thermal input control is effected by controlling the thermal input to the boiler. Again, these steps are all taken for the purpose of regulating the process in such a way as to prevent the freezing of the refrigerant.

The Examiner has said that "Hisajima discloses an absorption chiller having a controllable capacity whereby detected conditions of the refrigerant is determined to prevent freezing within the evaporator". This is true. However, it is to prevent freezing of the refrigerant within the evaporator rather than to prevent freezing of the chilled water as in the present case.

Serial No.: 10/756,566
Amendment Dated: July 14, 2004
Reply to Office Action of July 1, 2004

Referring now to claims 1 and 11, the applicants recite method or apparatus for sensing when the chilled water flow has terminated and both shutting down the system and delivering a working fluid from a high temperature region of the machine to the evaporator to raise the temperature within the evaporator above a level at which the water in said evaporator tubes freezes. The cited reference does not show nor suggest such a method or apparatus and is not capable of performing the function as set forth in the applicant's claims.


For the above reasons, the applicants believe that the present claims are patentably distinctive over the cited references. A reconsideration of the Examiner's rejections and a passing of the case to issue is therefore respectfully requested.

If the Examiner wishes to expedite disposition of the above-captioned patent application, he is invited to contact Applicant's representative at the telephone number below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-0289.

Respectfully submitted,

WALL MARJAMA & BILINSKI LLP

By: 
Dana F. Bigelow
Reg. No. 26,441

DFB/cmh
Telephone: (315) 425-9000

Customer No.: 20874